

Sensors to monitor food safety and quality

Presented by

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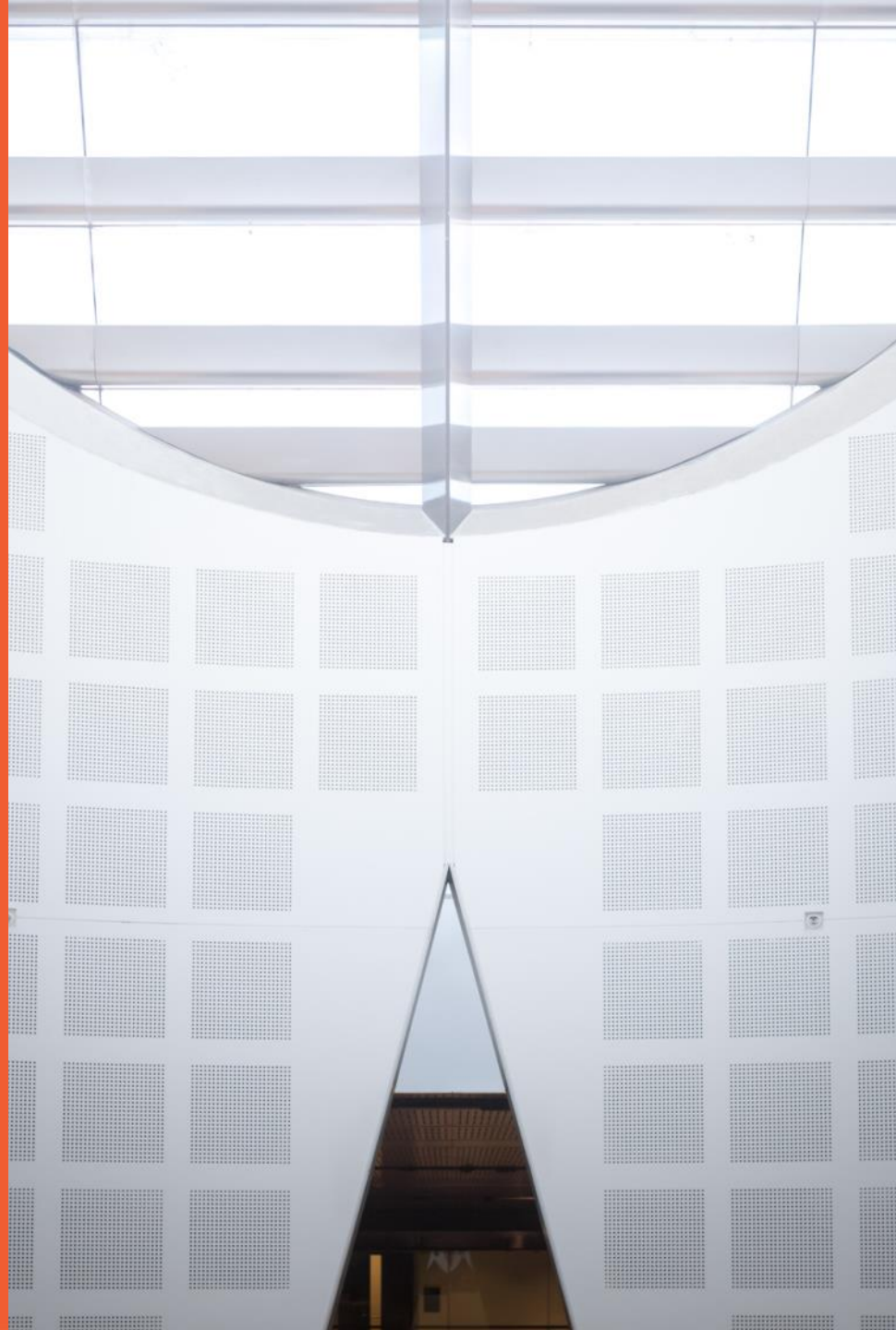
School of Chemical and Biomolecular Engineering

Centre for Advanced Food Enginomics (CAFE)

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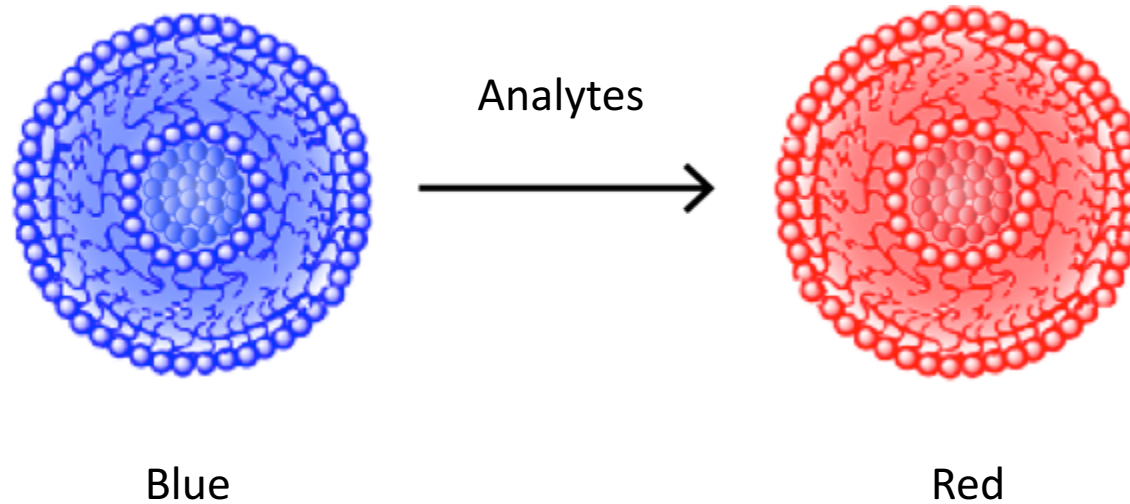


Sensors:

Analytical devices used to detect the presence and concentration of analytes, including bacteria, gases, toxins, nucleic acids, antibiotics, etc.

- Easy-to-use, portable devices for use by non-specialists for *in situ* or home analysis
- Low-cost
- Rapid
- Specific
- Sensitive
- Little to no sample preparation

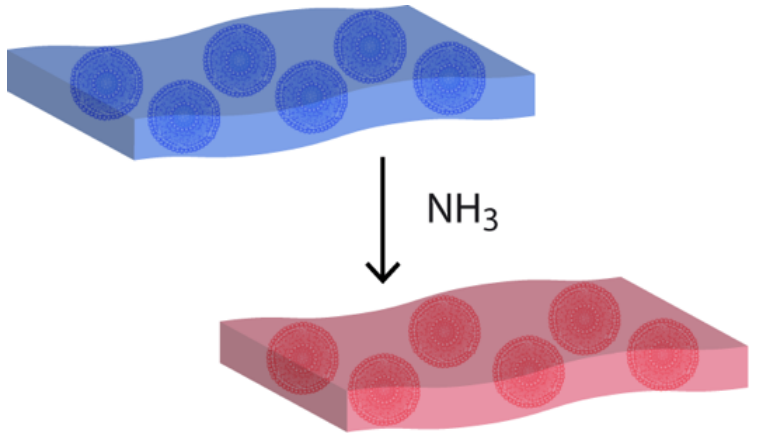
Nanoparticle sensors



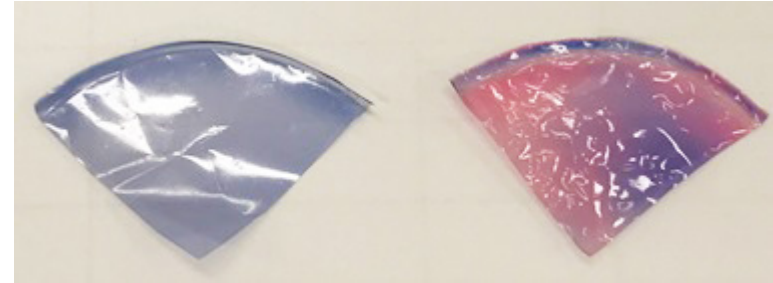
- Easy-to-interpret
- Eliminates the use of bulky and costly instruments

Sensors to detect meat spoilage

Aim: To develop a sensor that can be incorporated in food packaging to detect meat spoilage



- ammonia



+ ammonia



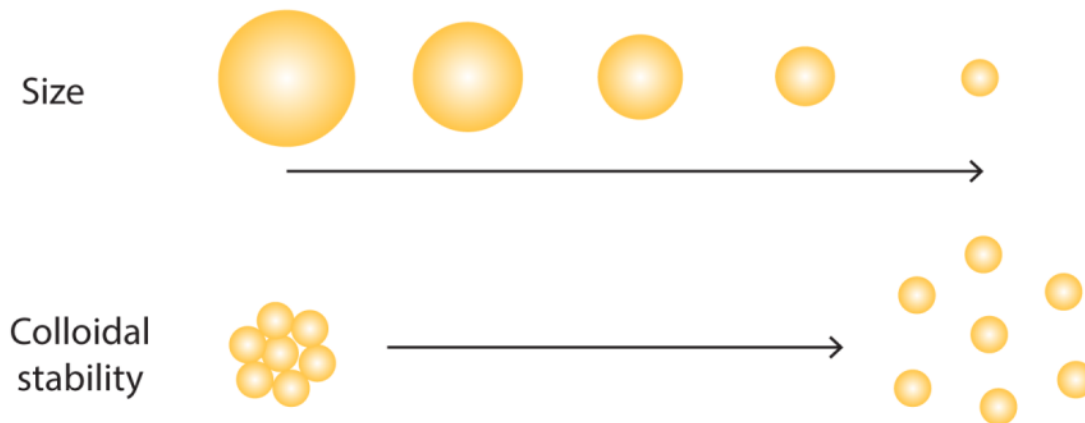
Fresh meat



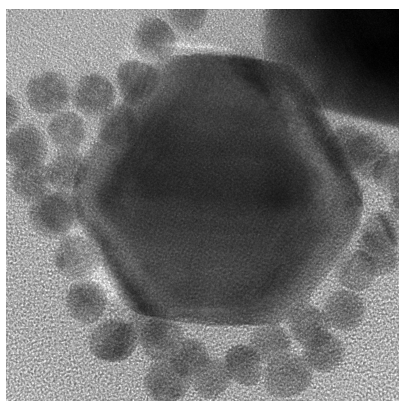
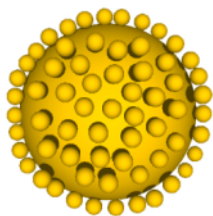
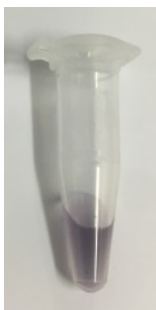
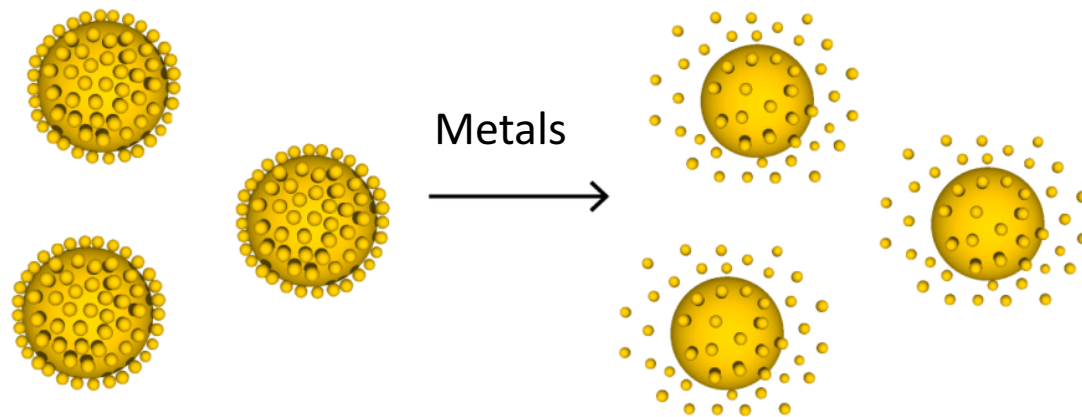
Spoiled meat



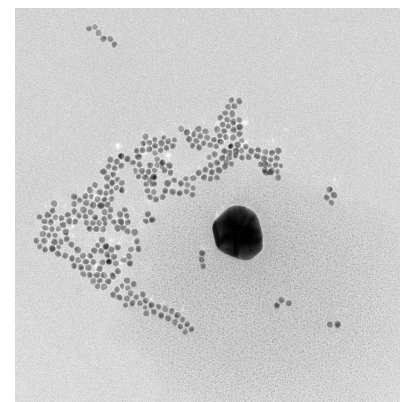
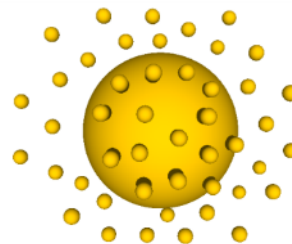
Nanoparticle sensors



Sensors to detect metal contaminants



20 nm



100 nm

Nanoparticle sensors can be conjugated with a range of molecules to target applications according to food industry needs

